DOCUMENT RESUME

ED 071 112 CS 500 087

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TITLE	The Effects of Channel Variation on Attitude Change and Source Credibility.
PUB DATE	Nov 72
NOTE	12p.; Paper presented at the Western Speech Communication Assn. Convention (Honolulu, November 1972)
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Attitudes; *Audiovisual Communication; Changing Attitudes; *Communication (Thought Transfer); *Media Selection; Persuasive Discourse; *Speech Evaluation; Video Tape Recordings
IDENTIFIERS	Channel Variation; *Source Credibility

ABSTRACT

This study examined the effects of channel variation on attitude change and source credibility. The fifty-four subjects who made up the four treatments (live, video, audio, control) were given a pre and posttest measure of attitude change consisting of 12 Likert-type scales. Additionally, the three experimental groups were administered a posttest measure of source credibility (Berlo, et. al., 1969). Results indicated that channel variation produces no significant differences in attitude change scores or source credibility ratings. It was suggested that the presence or absence of an audience during video taping might have an effect on attitude change and source credibility scores. (Author)

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THE EFFECTS OF CHANNEL VARIATION ON ATTITUDE CHANGE AND SOURCE CREDIBILITY

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Paper Submitted to

Behavioral Sciences Interest Group

July 14, 1972

CS 500 087

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THE EFFECTS OF CHANNEL VARIATION ON ATTITUDE CHANGE AND SOURCE CREDIBILITY

The term "channel" is rarely explicitly defined in communication research. Loosely defined, "channel" is considered as the mode through which a given message is transmitted. In psychological studies, "channel" is sometimes referred to as "sense modality." Early studies of channel variation often differentiated between channels by the sense through which the message was received: eye versus ear, or as it was more commonly called, audio versus visual. However, more recent studies tend to describe channel variation by the mode of presentation itself, thus allowing distinctions between pictorial and written channels involving the visual sense, and between live and video tape presentations, which combine the audio and visual senses.

About a thousand studies have been done in the area of channel variation: Hsia (1968) notes in his review of the literature "The one conclusion that can be drawn from nearly a thousand studies is: no generally conclusive statement can be made." (page 247) The results of several studies indicate that channel superiority may vary with such factors as the difficulty of text (Harwood, 1951), or the age (Hampleman, 1958) and education (Klapper, 1949) of the audience. To date, no single theory encompasses the findings of past experiments. No attempt to review the literature will be made in this paper; the interested reader might begin with summaries compiled by Hartman (1961)

and Hsia (1968).

The importance of determining the relative effectiveness of channels is pointed out by Wall and Boyd (1971). If differences exist between channels, past generalizations from written or video tape presentations to live presentations are not justified. On the other hand, if no significant differences can be found between live and video presentations, experimenters in future research could take advantage of the greater control afforded by using the same video presentation for all treatments. Further, if all channels are equally effective in the amount of attitude change produced, then the most convenient and economical channel could be selected for presentation.

The authors of this paper drew upon two previous studies in the design of their experiment. A study by Wall and Boyd (1971) found no significant differences in attitude change between a live presentation of a persuasive message and a video tape of that presentation. These findings contradict those of Croft et.al. (1969), who found a live presentation superior to a video tape presentation made without an audience. The Croft group also predicted that source credibility would vary across channels, although a measure of source credibility was not included in that study. A partial replication of these experiments was designed to answer these questions:

1. Does varying the mode of presentation of a given message affect attitude change?
2. Does varying the mode of presentation affect source credibility ratings?

To answer the above questions, the following hypotheses were established:

H1: A live presentation of a given message will produce greater attitude change than a video tape presentation.

H2: A video tape presentation will produce greater attitude change than an audio presentation.

H3: The live, video, and audio presentations will produce greater attitude change than a control group which does not receive the message.

H4: A live presentation will result in higher source credibility ratings than a video tape presentation.

H5: A video tape presentation will result in higher source credibility ratings than an audio presentation.

Methods and Procedures

Subjects were 54 undergraduate students enrolled in four lower division speech-communication classes at San Jose State College, Spring 1972. Groups consisted of whole classes. Since these classes fulfilled a general education requirement of the college, all grade levels and most academic majors were represented in this sample.

Each group received a pretest consisting of 12 masked Likert type scales designed to measure attitudes concerning an alternate newspaper on campus. The 8 minute speech, which presented arguments supporting the establishment of an alternate newspaper on campus, was given 12 days after the pretest, with the following treatments:

Group I: Live Presentation

Group II: Video Tape of the Live Presentation

Group III: Audio (Tape Recording of the Live Presentation)

Group IV: Control (No Message Given)

Immediately following treatments, a posttest was administered to each group. The posttest consisted of the same 12 Likert type scales used in the pretest, plus a measure of source credibility consisting of six semantic differential scales along the three dimensions of safety, dynamism and qualification (Berlo, et. al., 1969).

Pretests and posttests were matched, coded, and assigned a score representing the amount and direction of attitude change. Two items were eliminated because of their apparent ambiguity. Scores for the remaining 10 items were summed to produce a single attitude change score for each S. The two scales for each of three dimensions of source credibility were summed, resulting in 3 source credibility scores for each S. A summary of the mean scores for each group appears in Tables I & II.

TABLE I

Attitude Change
Mean Scores

Group Description		Size	Mean
Group I:	Live Presentation	14	5.43
Group II:	Video Tape	11	6.18
Group III:	Audio	15	4.07
Group IV:	Control Group	16	0.71

TABLE II

Source Credibility
Mean Scores

Group Description	Safety	Dynamism	Qualification
Live Presentation	9.786	7.643	11.214
Video Tape	10.000	7.727	11.000
Audio	9.266	7.866	10.733

Results

One-way analysis of variance was used to determine if the differences in attitude change scores in the three experimental groups were significant. H1 and H2 were not supported: the obtained *F* ratio was 0.914, not significant. Results are shown in Table III.

To determine if the attitude change scores of the control group were significantly different from those of the three experimental groups, *t* values were calculated. Differences were significant at the .025 level and below; thus, H3 was supported. Results are shown in Table IV.

One-way analysis of variance was again used to determine if the differences in source credibility ratings were significant. The obtained *F* ratios were extremely low. H4 and H5 were not supported. Results are shown in Tables V, VI, and VII.

TABLE III

Attitude Change in Experimental Groups

Source of Variation	SS	df	MS	F
Between	30.71	2	15.355	0.914*
Within	622.00	37	16.811	
TOTAL	652.71			

*n.s. ($p < .05$, needed $F_{2/37} = 3.30$)

TABLE IV

t Test Comparisons for Attitude Change Scores

Groups Compared	t	df	p Value
Control & Group I (Live)	3.190	26	$p < .005$
Control & Group II (Video)	5.593	23	$p < .005$
Control & Group III (Audio)	2.081	27	$p < .025$

TABLE V

Source Credibility
(Safety)

Source of Variation	SS	df	MS	F
Between	3.87	2	1.933	0.593*
Within	120.55	37	3.238	
TOTAL	124.42			

TABLE VI

Source Credibility
(Dynamism)

Source of Variation	SS	df	MS	F
Between	0.37	2	0.183	0.030*
Within	229.14	37	6.193	
TOTAL	229.51			

TABLE VII

Source Credibility
(Qualification)

Source of Variation	SS	df	MS	F
Between	1.69	2	0.843	0.183*
Within	170.40	37	4.605	
TOTAL	172.09			

*n.s. (p .05, needed $F_{2/37} = 3.30$)

Discussion and Conclusions

The first two hypotheses regarding the effects of channel variation on attitude change were not supported. Analysis of the data revealed no significant differences in attitude change between live, video, and audio presentations of the same message. These findings support those of Wall and Boyd (1971) and contradict those of Croft et.al. (1969). Perhaps the Croft group findings are explainable in terms of the method of video taping used. Tapes used in this experiment and the one by Wall and Boyd were made before live audiences; it is inferred that the Croft group had no audience present for the video taping. On this basis, the authors suggest that when video tapes are made before live audiences, attitude change will not differ significantly from that produced through a live presentation; when video tapes are made without an audience present, a difference will be found, in favor of the live presentation.

The third hypothesis was supported. Attitude change scores for the control group were significantly lower than those for the three experimental groups, indicating that the speech itself was persuasive.

The fourth hypothesis, which predicted higher source credibility for a live presentation than a video taped one, was not supported. The fifth Hypothesis, that source credibility would be higher for video than audio presentations, was not supported.

Results showed significant similarities across all three channels. The extremely low F ratios for all three dimensions of source credibility are an indication that channel variation has absolutely no effect on source credibility ratings. The authors have found no evidence, either in the literature or in their own experiment, to support the Croft suggestion that source credibility ratings vary across channels. Since the Croft group did not include a measure of source credibility in their experiment, the possibility of this variable as a function of the method of video taping used remains open.

Due to the limitation of available subjects, this study omitted a written channel for the following reason: The live, video, and audio presentations are as closely identical in information output as possible. A written message, in contrast, allows each person to set his own rate of information processing, and enables him to repeat any piece of information he wishes. Since the other three modes had far greater control for this redundancy factor, the written message was deleted. However, it is still important to know the relative efficiency of this channel compared to other channels. Therefore, it is recommended that future experiments include the written channel whenever possible.

Finally, the authors express the hope that future research will consider the question raised here: Does having an audience present during video taping have any effect on attitude change and source credibility ratings?

Summary

This study examined the effects of channel variation on attitude change and source credibility. The fifty-four Subjects who made up the four treatments (live, video, audio, control) were given a pre and posttest measure of attitude change consisting of 12 Likert type scales. Additionally, the three experimental groups were administered a posttest measure of source credibility (Berlo, et.al., 1969). Results indicated that channel variation produces no significant differences in attitude change scores or source credibility ratings. It was suggested that the presence or absence of an audience during video taping might have an effect on attitude change and source credibility scores.

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